

Wyoming Department of Environmental Quality – Air Quality Division
Upper Green River Basin Ozone Strategy
April 22, 2014

The Upper Green River Basin (UGRB) area was designated by the EPA as “Marginal” nonattainment for the 8-hour ozone NAAQS of 0.075 ppm on July 20, 2012. There has been much work done to address this ozone nonattainment status prior to this designation. Some of this work includes the creation of policy, increased monitoring, and detailed emission inventories by the Wyoming Department of Environmental Quality (WDEQ) Air Quality Division (AQD). It also includes stakeholder involvement since 2006 and the formation of the UGRB Air Quality Citizens Advisory Task Force (Task Force) in early 2012. The final ten Task Force recommendations were submitted to the WDEQ AQD in September 2012 for consideration.

The Task Force recommendations as well as many other elements were included in an *UGRB Ozone Strategy* dated March 11, 2013 that described WDEQ’s overall ozone reduction strategy. The strategy evolved to an *UGRB Ozone Strategy* dated September 24, 2013; based upon the status of elements in the *Ozone Strategy* dated March 11, 2013, information that became available since March 2013, and consideration of AQD winter ozone season staff resource demands. The strategy continued through March 2014 and identified four groups of activities based on when they were targeted to be worked on as well as their ongoing nature, if applicable.

All three (3) activities that were to be worked on through the end of March 2014 have been completed and are listed below.¹

1. Forecasting for the winter ozone season for 2014
2. Ozone Action Days 2014
3. Produced Water Tanks Request for Proposal

Of the five (5) activities that were to be worked on through the end of March 2014, and go into subsequent time periods, two (2) have been completed (#4, #5) and one (1) has been partially completed (#1) and are listed below.¹

1. Upper Green Winter Ozone Study (UGWOS) 2014
4. Develop a plan to assess the control effectiveness of combustors in the UGRB.
5. Develop an emissions inventory study plan for incorporation into a State of Wyoming request for proposals.

Two (2) of the four (4) rulemaking subject areas (#1, #2) that were to be worked on through the end of March 2014, and go into subsequent time periods, have also been completed and are listed below.¹

1. Continue to proceed through the statutory rulemaking process to incorporate New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAPs) related to the oil and gas industry into the Wyoming Air Quality Standards and Regulations (WAQSR).
2. Continue to proceed through the statutory rulemaking process for an Ozone Emissions Inventory Rule.

¹ The bullet numbering corresponds to the numbering within the *UGRB Ozone Strategy* dated September 24, 2013.

The completion of eight (8) elements from the *Ozone Strategy* dated September 24, 2013 in addition to eleven elements from the *Ozone Strategy* dated March 11, 2013, are all important in continuing to build the foundation to help bring the UGRB back into ozone attainment. For example, an Ozone Emissions Inventory Rule is required by the Clean Air Act for ozone nonattainment areas to require all sources operating in ozone nonattainment areas to report actual emissions of oxides of nitrogen and volatile organic compounds from those sources.

The *Ozone Strategy* dated March 11, 2013 focused on a six month timeframe from March through August 2013 and identified five groups of activities based on when they were targeted to start or be accomplished as well as their ongoing nature, if applicable.

All nine (9) activities that were targeted to be accomplished in the six month time frame from March 2013 through August 2013 have been completed and are listed below.²

1. General Conformity State Implementation Plan (SIP) revision
2. Forecasting for the winter ozone season for 2013
3. Analyses of past monitoring data to evaluate the complex chemistry involved with ozone formation at the Boulder station
4. Upper Green Winter Ozone Study (UGWOS) 2013
5. Mobile Monitoring Assessment of Methane and Ozone Precursors in the Pinedale Anticline Project Area during Winter 2012/2013
6. Promote the expansion of short-term emissions reduction measures to be implemented on ozone action days by governmental entities and the public
7. WDEQ-AQD Ozone Advance path forward letter
8. WDEQ-AQD staffing evaluation
9. Update the Oil & Gas Best Available Control Technology (BACT) Guidance

Two (2) of the six (6) activities (#1, #3) that were targeted to start in the six month time frame from March 2013 through August 2013, and go into subsequent time periods have also been completed and are listed below.²

1. Develop Oil & Gas Guidance revisions to incorporate leak detection and repair (LDAR) for new and modified upstream sources.
3. Reconcile the Oil & Gas Guidance with New Source Performance Standard Subpart OOOO for new and modified sources.

In consideration of how the strategy should evolve after March 2014, the AQD evaluated the status of elements in the *Ozone Strategy* dated September 24, 2013 and information that has become available since September 2013. The strategy will continue through September 2014 with four groups of activities. This document will go into more detail for activities that are to be worked on through the end of September 2014. Also described are those activities or rulemaking subject areas that are to be worked on through the end of September 2014, but will not be completed, as they are longer term to create and implement. Lastly, we will describe those elements that are ongoing. Please keep in mind that the strategy as described will evolve and thus, this document will evolve too.

² The bullet numbering corresponds to the numbering within the *UGRB Ozone Strategy* dated March 11, 2013.

The WDEQ-AQD has identified six (6) activities that are to be **worked on through the end of September 2014**. Those WDEQ-AQD activities are summarized below.

1. WDEQ-AQD Ozone Advance Status
 - Ozone Advance is a voluntary and collaborative effort by EPA, states, and local governments to encourage ozone reduction.
 - WDEQ-AQD will provide an annual status update to EPA
2. Emissions Inventory Query Wizard Development
 - Will allow users to obtain quality assured actual emissions inventory data without the need to submit a formal information request to the WDEQ-AQD
 - Fulfills aspects of Task Force Recommendation #9
3. WyVisNet Improvement
 - WDEQ-AQD updates to look, feel, and functionality of <http://www.wyvisnet.com/>
 - Fulfills aspects of Task Force Recommendation #9
4. Upper Green Winter Ozone Study (UGWOS) 2014
 - WDEQ-AQD 2014 focus on monitoring of ozone, oxides of nitrogen and volatile organic compounds at long term stations as well as selected additional locations to aid in the understanding of ozone formation
 - The January – March 2014 data will be finalized by the end of June 2014 with a final report anticipated in September 2014
 - Fulfills aspects of Task Force Recommendation #9
5. Produced Water Ponds Request for Proposal
 - Develop a State of Wyoming request for proposals to research and quantify emissions from produced water and storage ponds in the UGRB
 - Listed as Task Force Recommendation #7
6. Review and evaluate data collected by EPA Office of Research and Development
 - 2011, 2012 and 2013 EPA ORD mobile monitoring studies in the UGRB
 - 2012 and 2013 EPA ORD diffusion tube monitoring studies in the UGRB
 - WDEQ-AQD focus on potential relevant information in regard to monitoring, emissions inventories, modeling, and control strategies

The WDEQ-AQD has identified two (2) activities that are to be **worked on through the end of September 2014, and go into subsequent time periods**. Those WDEQ-AQD activities are summarized below.

1. Produced Water Tank Study
 - Implement field study to research and quantify emissions from produced water tanks in the UGRB
 - Field study anticipated to be complete by the end of May 2014
 - Final report anticipated to be complete in September 2014
 - Fulfills aspects of Task Force Recommendation #7

2. Oil & Gas Production Site Emissions Inventory Study
 - Assess the control effectiveness of combustors and quantify emissions from fugitive sources in the UGRB
 - Field study anticipated to be complete 180 days after contract award
 - Final report anticipated to be complete 90 days after completion of field study
 - May fulfill aspects of Task Force Recommendation #9

The WDEQ-AQD has identified four (4) **rulemaking subject areas** that are to be **worked on through the end of September 2014, and go into subsequent time periods**. Those rulemaking subject areas are summarized below.

1. Develop a Phase I control strategy and regulatory option to reduce emissions from existing upstream and midstream oil and gas sources while preserving the current New Source Review permitting processes. Initiate the statutory rulemaking process for a technology based rule, which is targeted to be complete by the end of January 2015. (Listed as Task Force recommendations #1, #2, and #6.)
2. Evaluate a Phase II emission budget based control strategy and regulatory option to reduce emissions from existing upstream and midstream oil and gas sources. The WDEQ-AQD will consider more permanent mechanisms to address new growth that will function effectively and preserve the New Source Review permitting of WAQSR Chapter 6, Section 2. (Listed as Task Force recommendations #1 and #2.)
3. Gather information on how an incentive program could be coordinated with rulemaking processes to accelerate emission reductions in the UGRB nonattainment area prior to completion of statutory rulemaking processes. (Listed as Task Force Recommendations #1, #2, and #10.)
4. Integrate stakeholder involvement in the gathering and evaluation of information that may be utilized in a Phase II emission budget based control strategy and regulatory option to reduce emissions from existing upstream and midstream oil and gas sources.

The WDEQ-AQD has identified 20 **activities, studies and projects that are ongoing**. Those activities, studies and projects are summarized below.

1. Continue to work to improve the processes for regulatory ambient monitoring, annual and winter emissions inventories, and regulatory modeling. (Listed as Task Force Recommendation #9.)
2. Continue to communicate how to access information such as ambient monitoring and emissions inventory data. (Fulfills aspects of Task Force Recommendation #9.)
3. Implement Nonattainment New Source Review permitting for applications, which are subject to these permitting requirements (i.e., new major sources and major source modifications).
4. Continue to utilize Wyoming Air Quality Standards and Regulations Chapter 6, Section 2(c) (demonstrations for permit requirements) for new and modified facilities in the UGRB.
5. Continue to collaborate with the BLM, USFS, EPA and industry representatives to implement the federally required General Conformity Rule for areas in nonattainment of the NAAQS.

6. Continue to collaborate with the WYDOT to successfully meet the requirements of the Transportation Conformity rule as it pertains to nonattainment of the NAAQS.
7. Continue to utilize compliance inspections at production sites, compressor stations, etc. to confirm ongoing compliance with applicable permit requirements, Wyoming rules and regulations, as well as Federal rules and regulations.
8. Continue to require measurement of source emissions via stack testing to confirm ongoing compliance with applicable permit requirements, rules and regulations.
9. Continue to utilize the notice of violation process for sources determined to be in noncompliance.
10. Continue to improve actual emission inventories to support nonattainment planning including but not limited to modeling and demonstration of emission reductions.
11. Continue to improve weather forecast capabilities for conditions conducive to elevated ozone for the timeframe of January through March. (Fulfills aspects of Task Force Recommendation #9.)
12. Continue to promote the development and implementation of ozone contingency plans, to utilize short-term emissions reduction measures on ozone action days, for all stakeholders throughout the nonattainment area. (Listed as Task Force Recommendation #3.)
13. Continue to plan for winter monitoring, as appropriate, to aid in the understanding of ozone formation to support nonattainment planning. (Fulfills aspects of Task Force Recommendation #9.)
14. Continue the WDEQ-AQD Statewide Engine Study contract, as appropriate, for source tests via stack testing to verify achievement of best available control technology control effectiveness and improvement of maintenance practices. (May fulfill aspects of Task Force Recommendation #9b.)
15. Continue WDEQ-AQD contract, as appropriate, to evaluate photochemical grid modeling performance to replicate elevated winter ozone formation, which will be utilized by the WDEQ-AQD if reasonable to evaluate control strategies in the UGRB.
16. Continue to collaborate on the regional efforts, which include a data warehouse, monitoring, and modeling that may be beneficial in a weight of evidence approach to nonattainment planning.
17. Continue to improve communication strategies including, but not limited to, updates to the Air Quality Advisory Board, press releases, public meetings, and stakeholder involvement.
18. Continue to explore community projects (e.g., diesel emissions reduction act (DERA), wood burning, school bus retrofits).
19. Continue to comply with the Governor's Sage Grouse Executive Order during the New Source Review permitting process and when siting new monitoring stations.
20. Continue to work cooperatively with State and Federal agencies to address wildlife concerns when siting new monitoring stations.